



News Release

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Preliminary Data Indicate Humpback Chub Translocation Successful to Date



The humpback chub. Photo courtesy of George Andjreko, Arizona Game and Fish.

Grand Canyon, Ariz. -- On June 15th, 2009, the National Park Service, in conjunction with the Bureau of Reclamation, the Grand Canyon Wildlands Council, the Arizona Game and Fish Department, and the U.S. Fish and Wildlife Service translocated 300 juvenile humpback chub to Shinumo Creek in Grand Canyon National Park. Monitoring of the new Shinumo Creek humpback chub population by fisheries biologists in

early July, as well as data collected by a PIT (a microchip known as a passive integrated transponder) tag scanner installed in the stream, showed that most of the translocated fish had remained in Shinumo Creek. While the long-term results of this translocation experiment will only be known after several years of monitoring, these preliminary data are encouraging.

The humpback chub (*Gila cypha*) is an unusual-looking member of the minnow family endemic to the Colorado River Basin. These fish, which can live as long as 30 years and reach lengths of almost 20 inches, are characterized by large fins and pronounced muscular humps on the backs of adults, immediately behind their heads. Like other endemic Colorado River fish, humpback chub are adapted to the river's natural conditions—high turbidity and seasonally variable flows and temperatures.

The humpback chub is protected under the Endangered Species Act. Humpback chub populations have been impacted by a variety of significant human-caused changes in the Colorado River including a dam-altered ecosystem, competition with and predation by non-native fish such as rainbow and brown trout, and non-native parasites such as the Asian tapeworm.

The largest humpback chub population in Grand Canyon is near the confluence of the Little Colorado and the Colorado rivers. This population is at risk from a number of threats, including

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non-native fish and parasites, and hazardous materials spills in the Little Colorado River watershed outside the park. Establishing a satellite population in another suitable Grand Canyon tributary may prove to be an important option for conserving this species in Grand Canyon National Park.

Shinumo Creek, a small, clear tributary joining the Colorado River at approximately River Mile 109, was selected as the site for a humpback chub translocation experiment because it appears to have suitable habitat for humpback chub based on water quality, water temperature, and available food base. It also has a barrier falls just above its confluence with the Colorado River which prevents non-native predatory fish found in the mainstem river from moving into Shinumo Creek.



Barrier Falls on Shinumo Creek. NPS Photo by Steve Rice

The juvenile humpback chub released in Shinumo Creek were captured in July and October 2008 near the mouth of the Little Colorado River. The fish were treated to remove parasites at the Arizona Game and Fish Department's Bubbling Ponds Fish Hatchery and then kept overwinter at the U.S. Fish and Wildlife Service Dexter National Fish Hatchery and Technology Center, in New Mexico. Approximately one month prior to translocation, unique identity tags, known as PIT tags, were implanted in each fish.

Prior to releasing the humpback chub in Shinumo Creek, biologists surveyed the existing native fish population of bluehead suckers and speckled dace in the stream and installed a PIT tag antenna and stream gage above the barrier falls. They also removed approximately 800 non-native rainbow trout using electrofishing techniques, hoop nets, seines, and angling. Non-native trout removal was conducted to reduce competition between the trout and newly translocated humpback chub and the risk of trout predation.

The humpback chub were trucked overnight from Dexter National Fish Hatchery and Technology Center to the National Park Service helibase on the South Rim, and then were flown by helicopter to Shinumo Creek on the morning of June 15. After tempering the fish to the water temperature and chemistry of Shinumo Creek, the fish were released in four locations within a quarter-mile section of the stream. Biologists observed the young humpback chub actively feeding and behaving normally a few minutes after they were released. Grand Canyon National Park fisheries biologist Brian Healy said, "It was extremely encouraging to see the fish feeding so soon after their release. The crew did an excellent job of minimizing stress on these fish during transport."

Fisheries biologists returned to Shinumo Creek in early July to monitor the translocated humpback chub population. They found that the fish had dispersed throughout the 1.7 mile segment of the stream from the translocation reach to the barrier falls near the mouth of the creek. Using hoop nets, minnow traps, and seines, they captured more than 100 humpback chub, which were measured, weighed, and then returned to the stream.



Young humpback chub swimming in Shinumo Creek soon after release.
NPS Photo by Melissa Trammell

Three of the translocated humpback chub were found at the mouth of Shinumo Creek below the barrier falls. Three additional young, humpback chub without PIT tags that may be mainstem Colorado River fish were also caught at the mouth of the creek.

Data from the PIT tag antenna indicate that about 40 humpback chub, or less than 15% of the translocated population, left the creek. Healy said, “About half of the fish that left Shinumo did so in the days just after the release. This initial dispersal of humpback chub following a translocation is not unexpected, as fish adjust to their new environment and search for cover and suitable habitat. After the first few days, the number of fish leaving Shinumo Creek declined, which may be a sign that the fish are adapting to their new habitat in Shinumo Creek.”

Grand Canyon National Park Superintendent Steve Martin said, “It’s great that the early data indicates the translocation is going well so far. I hope the data we collect in future will be equally encouraging. It’s really exciting to be working with our partners on such an important conservation project in the canyon.”

Monitoring of the translocated humpback chub population will take place again in September. Healy said, “It will be very interesting to see whether the fish withstand monsoonal flooding typical in the canyon during the late summer as a result of heavy rains, although they are certainly capable of handling those conditions. Even if a reproducing population of humpback chub does not become established in Shinumo Creek, fish dispersing out of the creek may augment existing aggregations in the Colorado River, which would also benefit conservation efforts for the species.”

Further monitoring and additional translocations of young humpback chub to Shinumo Creek are planned for 2010 and 2011. Additional juvenile fish were collected in mid-July from near the mouth of the Little Colorado River for translocation next spring.

There are no closures at Shinumo Creek because of this translocation experiment. Anglers in Shinumo Creek should become familiar with the identifying characteristics of humpback chub to avoid any accidental capture of the translocated chub. Young humpback chub are silver, have small eyes and large fins, but have not yet developed the pronounced hump behind their head. If any humpback chub are incidentally caught, they must be immediately released unharmed.

For further information about this project, please visit the park's web site at <http://www.nps.gov/grca/naturescience/shinumotransloc.htm> and at <http://www.nps.gov/grca/naturescience/cynsk-v12.htm> or contact Maureen Oltrogge, Public Affairs Officer, at 928-638-7779.

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